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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/773,218	02/09/2004	Hiroshi Tsurumi	248536USRD DIV	6747	
22850	7590	01/20/2006	EXAMINER NGUYEN, DUNG X		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ART UNIT		PAPER NUMBER
			2638		

DATE MAILED: 01/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/773,218	TSURUMI ET AL.	
	Examiner	Art Unit	
	Dung X. Nguyen	2638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on 26 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,8,9,12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,8,9 and 12 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed on October 26, 2005, have been fully considered and are persuasive. Claims 3 – 7, 10, and 11 have been canceled.

Specification

2. Translations of Japanese patents # 182311/99 and 305953/99 have not been received.

3. **Claims 13 is objected** to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Regarding claim 13, claim 13 is the same claim 12, word-by-word.

4. **Claim 1 is objected** to because of the following informalities: “ the” as recited in line 5, first appearance, should be changed to “a”. Appropriate correction is required.

5. **Claim 2 is objected** to because of the following informalities: “ the” as recited in line 5, first appearance, should be changed to “a”. Appropriate correction is required.

6. **Claim 8 is objected** to because of the following informalities: “ the” as recited in line 5, should be changed to “a” and “the bandwidth” as recited in line 16 should be changed to “a” . Appropriate correction is required.

7. **Claim 9 is objected** to because of the following informalities: “ the” as recited in line 5, should be changed to “a” , “the outside of the scope” as recited in line 14 and 15 should be changed to “an outside of a scope”, and “the bandwidth” as recited in lines 15 and 16 should be changed to “a bandwidth” . Appropriate correction is required.

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8. **Claim 12 is objected** to because of the following informalities: “ the” as recited in line 5, first appearance, should be changed to “a”, “the band width’ as recited in line 16 should be changed to ‘a bandwidth”. Appropriate correction is required.

Allowable Subject Matter

9. **Claims 1, 2, 8, 9, and 12 are allowed.** The following is a statement of reasons for the indication of allowable subject matter:

Regarding to claim 1, the prior art of record fails to show or render obvious of a receiver, comprising:

- A filter which outputs an input containing a plurality of channels by rejecting an image band in a frequency converting process;
- A frequency converter having an analog orthogonal demodulator, which converts the frequency of the plurality of channel into a low range when the input signal whose image band has been rejected by the filter is inputted;
- An image rejecting device which rejects and outputs the image band of the signal of the plurality of channels whose frequency has been converted by the frequency converter;
- An A/D converter which converts the signal of the plurality of channels which is the output of the image rejecting device of the image rejecting device into a digital signal;
- A channel selector which selects a desirable channel out of the signals of the plurality of channels contained in the output of the A/D converter by digital processing; and
- Wherein the frequency converter divides the input signals containing t5he plurality of channels in to a plurality of sub-band and converts the frequency of the output of the filter into the low rage per the sub-band.

Regarding to claim 2, the prior art of record fails to show or render obvious of a receiver, comprising:

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- A filter which outputs an input containing a plurality of channels by rejecting an image band in a frequency converting process;
- A frequency converter having an analog orthogonal demodulator, which converts the frequency of the plurality of channel into a low range when the input signal whose image band has been rejected by the filter is inputted;
- An A/D converter which converts the signal of the plurality of channels whose frequency have been converted by the frequency converter by digital processing;
- A channel selector which selects a desirable channel out of the signals of the plurality of channels contained in the output of the A/D converter by digital processing; and
- An image rejecting device which rejects the image band before, during, or after the digital processing of the channel selector;

Wherein the frequency converter divides the input signals containing the plurality of channels in to a plurality of sub-band and converts the frequency of the output of the filter into the low range per the sub-band.

Regarding to claim 8, the prior art of record fails to show or render obvious of a receiver, comprising:

- A filter which outputs an input containing a plurality of channels by rejecting an image band in a frequency converting process;
- A frequency converter having an analog orthogonal demodulator, which converts the frequency of the plurality of channel into a low range when the input signal whose image band has been rejected by the filter is inputted;
- An image rejecting device which rejects and outputs the image band of the signal of the plurality of channels whose frequency has been converted by the frequency converter;
- An A/D converter which converts the signal of the plurality of channels which is the output of the image rejecting device of the image rejecting device into a digital signal;
- A channel selector which selects a desirable channel out of the signals of the plurality of channels contained in the output of the A/D converter by digital processing;

Wherein the frequency converter comprises:

- A local oscillator which divides the band of the plurality of channels into a plurality of sub-bands and outputs a local oscillating output whose frequency has been changed at intervals of the output of a bandwidth or more of the sub-band; and
- An analog orthogonal demodulator which converts the frequency of the input signals of the plurality of channels into the low range per each sub-band by multiplication of the local oscillating output and the input signals.

Regarding to claim 9, the prior art of record fails to show or render obvious of a receiver, comprising:

- A filter which outputs an input containing a plurality of channels by rejecting an image band in a frequency converting process;
- A frequency converter having an analog orthogonal demodulator, which converts the frequency of the plurality of channel into a low range when the input signal whose image band has been rejected by the filter is inputted;
- An image rejecting device which rejects and outputs the image band of the signal of the plurality of channels whose frequency has been converted by the frequency converter;
- An A/D converter which converts the signal of the plurality of channels which is the output of the image rejecting device of the image rejecting device into a digital signal;
- A channel selector which selects a desirable channel out of the signals of the plurality of channels contained in the output of the A/D converter by digital processing;

Wherein the frequency converter comprises:

- A local oscillator which divides the band of the plurality of channels into a plurality of sub-bands and outputs a local oscillating output whose frequency is on an outside of a scope of the band of each sub-band and whose frequency has been changed at intervals of the bandwidth or more of the sub-band; and

- An analog orthogonal demodulator which converts the frequency of the input signals of the plurality of channels into the low range per each sub-band by multiplication of the local oscillating output and the input signals.

Regarding to claim 12, the prior art of record fails to show or render obvious of a receiver, comprising:

- A filter which outputs an input containing a plurality of channels by rejecting an image band in a frequency converting process;
- A frequency converter having an analog orthogonal demodulator, which converts the frequency of the plurality of channel into a low range when the input signal whose image band has been rejected by the filter is inputted;
- An A/D converter which converts the signal of the plurality of channels whose frequency have been converted by the frequency converter into a digital signal;
- A channel selector which selects a desirable channel out of the signals of the plurality of channels contained in the output of the A/D converter by digital processing; and
- An image rejecting device which rejects the image band before, during, or after the digital processing of the channel selector;

Wherein the frequency converter comprises:

- A local oscillator which divides the input signals containing the plurality of channels in to a plurality of sub-band and outputs a local oscillating output whose frequency has been changed at intervals of a bandwidth and the input signals
- An analog orthogonal demodulator which converts the frequency of the input signals of the plurality of channels into the low range per each sub-band by multiplication of the local oscillating output and the input signals.

Conclusion

10. This application is in condition for allowance except for the following formal matters:

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Claims 1, 2, 8, 9, and 12 are allowed, however, they have to change to fix the errors as in the paragraphs # 3 – 8 stated above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (571) 272-3010. The examiner can normally be reached on Monday through Friday from 8:00 AM to 17:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Vanderpuye, Kenneth N. can be reached on (571) 272-3078. The fax phone numbers for this group is (571) 273-3021.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

DXN

January 13, 2006


KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER